

## Disease Notes

### California Laurel Is Susceptible to Laurel Wilt Caused by *Raffaelea lauricola*

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Extensive mortality of redbay (*Persea borbonia* (L.) Spreng.) has been observed in the southeastern United States since 2003. The mortality is due to laurel wilt caused by *Raffaelea lauricola* T. C. Harr., Fraedrich & Aghayeva, a fungal symbiont of the recently introduced redbay ambrosia beetle (RAB), *Xyleborus glabratus* Eichhoff (1,2). The wilt is known to affect other members of the Lauraceae including sassafras (*Sassafras albidum* (Nuttall) Nees) and avocado (*Persea americana* Mill.) (1,3). Two inoculation experiments were conducted to evaluate the susceptibility of California laurel (*Umbellularia californica* (Hook. & Arn.) Nutt.) to *R. lauricola*. Seedlings, averaging 73 cm high and 13 mm in diameter, were wounded with a drill bit (2.8 mm) to a depth of one-half the diameter of the stems. In each experiment, 10 seedlings were inoculated with one of two isolates of *R. lauricola* (five seedlings per isolate) obtained as previously described (1) from wilted redbays on Hilton Head Island, South Carolina and Fort George Island, Florida. In the first experiment, seedlings were inoculated with spore suspensions (0.1 ml) ranging from  $1.9$  to  $2.3 \times 10^6$  spores/ml and produced as previously described (1). In the second experiment, seedlings were inoculated with mycelial plugs obtained from the edge of 10-day-old cultures growing on malt extract agar (MEA). Five seedlings in each experiment served as controls and were inoculated with sterile deionized water or plugs of sterile MEA. Inoculation points were wrapped with Parafilm M (Pechiney Plastic Packaging, Menasha, WI). Seedlings were grown in growth chambers (daytime temperature 26°C, nighttime 24°C, and a 15-h photoperiod) for 13 to 15 weeks. At the end of the first experiment, 7 of 10 seedlings inoculated with *R. lauricola* exhibited wilt that appeared as a dieback of a few to the majority of branches. Nine of the ten seedlings exhibited sapwood discoloration and the fungus was isolated from eight of these seedlings. At the end of the second experiment, 8 of 10 seedlings exhibited wilt that again appeared as a dieback of a few branches to most branches. All seedlings with wilt exhibited sapwood discoloration and the fungus was recovered from these seedlings. Two seedlings inoculated with *R. lauricola* exhibited no symptoms of disease and the fungus was not recovered. Control seedlings remained healthy in both experiments with no evidence of wilt or sapwood discoloration and *R. lauricola* was not isolated. These results indicate that California laurel is susceptible to laurel wilt caused by *R. lauricola*. Furthermore, the disease on California laurel may appear as a branch dieback affecting individual branches one at a time rather than a rapid wilt of the entire crown as is often observed in redbay (1). Currently, the RAB is not known to occur on the West Coast and it is also not known if this beetle is capable of attacking and producing brood on California laurel. Nonetheless, if the RAB and *R. lauricola* become established on the West Coast, laurel wilt could pose a serious threat to natural ecosystems as well as the avocado industry in California.

*References:* (1) S. W. Fraedrich et al. *Plant Dis.* 92:215, 2008. (2) T. C. Harrington et al. *Mycotaxon* 104:399, 2008. (3) A. E. Mayfield, III et al. *Plant Dis.* 92:976, 2008.